AMERICAN MUSEUM NOVITATES

Number 642 — Published by THE AMERICAN MUSEUM OF NATURAL HISTORY New York City — July 5, 1933

59.57, 72 B (728)

NOTES ON SOME BOMBYLIIDAE (DIPTERA) FROM PANAMA

BY REGINALD H. PAINTER[1]

The small collection of Bombyliidae reported upon in this paper was submitted to the writer for identification by Mr. C. H. Curran. In the case of some of the commoner species, only a few representatives of each have been seen. Additional specimens identified by Mr. Curran have been added to the list. Among the specimens are two representatives of an interesting new genus and species. A second species belonging in this same genus but collected in South America is also included. The types, except as indicated, have been deposited in The American Museum of Natural History.

NEODISCHISTUS, new genus

This new genus possesses characters of the subfamily Bombyliinae as defined by Bezzi, and the following.

Head much broader than high, somewhat broader than the thorax; occiput flat, ocelli rather widely separated; face and front in female quadrate in shape, the inner margins of the eyes parallel; eyes bare, in the female with facets of equal size, slightly emarginate behind; face short and somewhat prominent; genae very narrow; proboscis about three times as long as the head; palpi single jointed, minute. Eyes of male contiguous, facets of two sizes, the smaller below. Antennae inserted about two-thirds of the way between ocelli and oral margin, their bases close together; first joint cylindrical, more than one and one-half times the length of the second; third cylindrical, about twice the length of the first two taken together, notched near the apex and bearing a minute style near the proximal margin of this notch, first and second joints clothed with stiff hairs, the third with minute pile.

Thorax broad and short, somewhat convex above, clothed with broad flat scales and stiff hairs; bristles present but not strong. Metapleurae bare. Scutellum rather large with bristles around the posterior margin. Squamae of moderate size with fringe of hairs; halteres large. Body somewhat gibbous.

Abdomen triangular, somewhat longer than broad, a little broader than thorax at base, clothed with broad, flat, appressed scales and a few stiff hairs along margin of abdomen. Female genitalia clothed with many hooked hairs. Legs long, clothed with scales and weak spines; pulvilli present, nearly as long as claws. Wings, in known species, hyaline; venation somewhat similar to *Sparnopolius*. R-m cross-vein at basal fourth of discal cell, making cells R and M of nearly equal length. Three interradials (two submarginal cells); R_5 open: cells M, second M_2 and Cu_1 present; anal cell widely open.

GENOTYPE.—*Neodischistus currani*, new species.

[1]Contribution No. 410 from the Department of Entomology, Kansas State College, Manhattan, Kansas.

The chief characteristics of this genus are the venation; the cylindrical third joint of the antenna, which bears a style before the apex as in *Phthiria* and *Rhabdoselaphus;* and the vesture, which consists of broad shining scales. In Williston's[1] key to genera, this genus would trace to couplet 31 or to *Sparnopolius*; in Edward's[2] key, to *Acrophthalmyda.* From *Sparnopolius* and *Dischiatus,* to which it is related, it differs in the type of body vesture and in the structure of the antennae. The same difference, as well as others that are evident from the description, holds for the other Nearctic or Neotropical Bombyliinae in which the vein M reaches the margin of the wing. From *Platymodes* it differs in the position of the r-m cross-vein; in the presence of only three interradial cells; and in the shape of the antennae. From the other described genera of Bombyliinae it differs in the shape of the antennae; and from most of them in the flat scale-like vesture.

KEY TO SPECIES

Orange pile behind occiput; front convex.....*collaris*, n. sp.
Black pile behind occiput; front concave.....*currani*, n. sp.

Neodischistus currani, new species

Figures 1, 5, and 11

FEMALE.—Entirely black, oral cavity yellowish. Antennae with first joint 0.2 mm.; second joint 0.1 mm.; third joint 0.6 mm. Front concave. Body and head clothed throughout with black hairs and appressed, iridescent, black scales, appearing greenish on the head and thorax, purplish on abdomen. Small patches of broad, silvery scales on each side of the face; on occiput, in the emargination of the eye; on mesopleura, sternopleura, hypopleura, posterior coxae, and the sides of the fourth, fifth, sixth, and seventh abdominal segments. Each patch consists of about a dozen scales or less. Some scales are transparent rather than silvery. Similar patches of scales on the under side of segments two, three, four, and five. A tuft of fine yellow, hooked hairs about the genitalia. Wings hyaline. Length, 6 mm.

MALE.—Body black; basal joints of antennae and posterior tibiae brownish; front silvery pollinose. Hairs chiefly black; those of upper part of occiput, dorsum of thorax and abdomen whitish in some lights. Scales mostly black, iridescent, but a few larger and silvery or transparent ones on mesopleurae, sternopleurae, and hypopleurae, located in all cases among sparse tufts of black hair. A few similar scales on each side of the front and on the apex of the abdomen where they form a connected ladder-like pattern. This pattern consists of a central and two lateral stripes from segment three to the apex of abdomen, connected by bands along the junction of segments five and six, six and seven, seven and eight. Patches of silvery scales are present on the under side of segments one, two, three, four, and five. Genitalia retracted and in a symmetrical position. Wings hyaline. Length, 4.5 mm.

[1]Williston, S. W. 1908. 'North American Diptera.' New Haven, Conn.
[2]Edwards, F. W. 1930. 'Diptera of Patagonia and South Chile.' Part V, Fasc. 2. Published by British Museum.

TYPES.—Holotype, female, Corozal, Panama Canal Zone, Jan. 19, 1929. Allotype, male, Tintina, Santiago d. Estero, Argentina, Feb. 21, 1920, Cornell University Collection. Paratypes: female, Corozal, Panama Canal Zone, Jan. 19, 1929 (C. H. Curran); one female, Tintina, Santiago d. Estero, Argentina, Feb. 21, 1920, Cornell University Collection.

The female from Argentina is somewhat rubbed but in most respects like those from Panama. There are fewer white scales on the abdomen and the third joint of the antennae is proportionately shorter. In the male the third antennal joint is lacking.

This species is named in honor of the collector.

Mr. Curran says in connection with the capture of these specimens: "The specimens were found in a patch of long grass in the middle of a wide trail and represent two of the three specimens seen. One disappeared too quickly to permit capture and although I spent a considerable time in the region I could find no more. The spot was visited on several other days but proved barren."

Neodischistus collaris, new species

Figures 6 and 8

FEMALE.—Body black, face brownish gray; basal joints of antennae brownish; posterior tibiae and knob of halteres yellowish brown. Antennae: first joint 0.15 mm., second joint 0.075 mm., and third joint 0.55 mm.; third joint more spindle-shaped than in *currani*. Front convex. All hairs and scales black except for a conspicuous orange fringe of pile between occiput and thorax on the dorsum. Scales of body have a brassy iridescence; spines black, on femora and tibiae yellowish. Wings hyaline. Length, 5 mm.

TYPES.—Holotype, female, Tucuman, Argentina, Jan. 22, 1928 (H. E. Box), in author's collection. Paratype, female, Aquidauana, Matto Grosso, Brazil, Dec. 11–13, 1919, Cornell University Collection.

Heterostylum stigmatias Knab

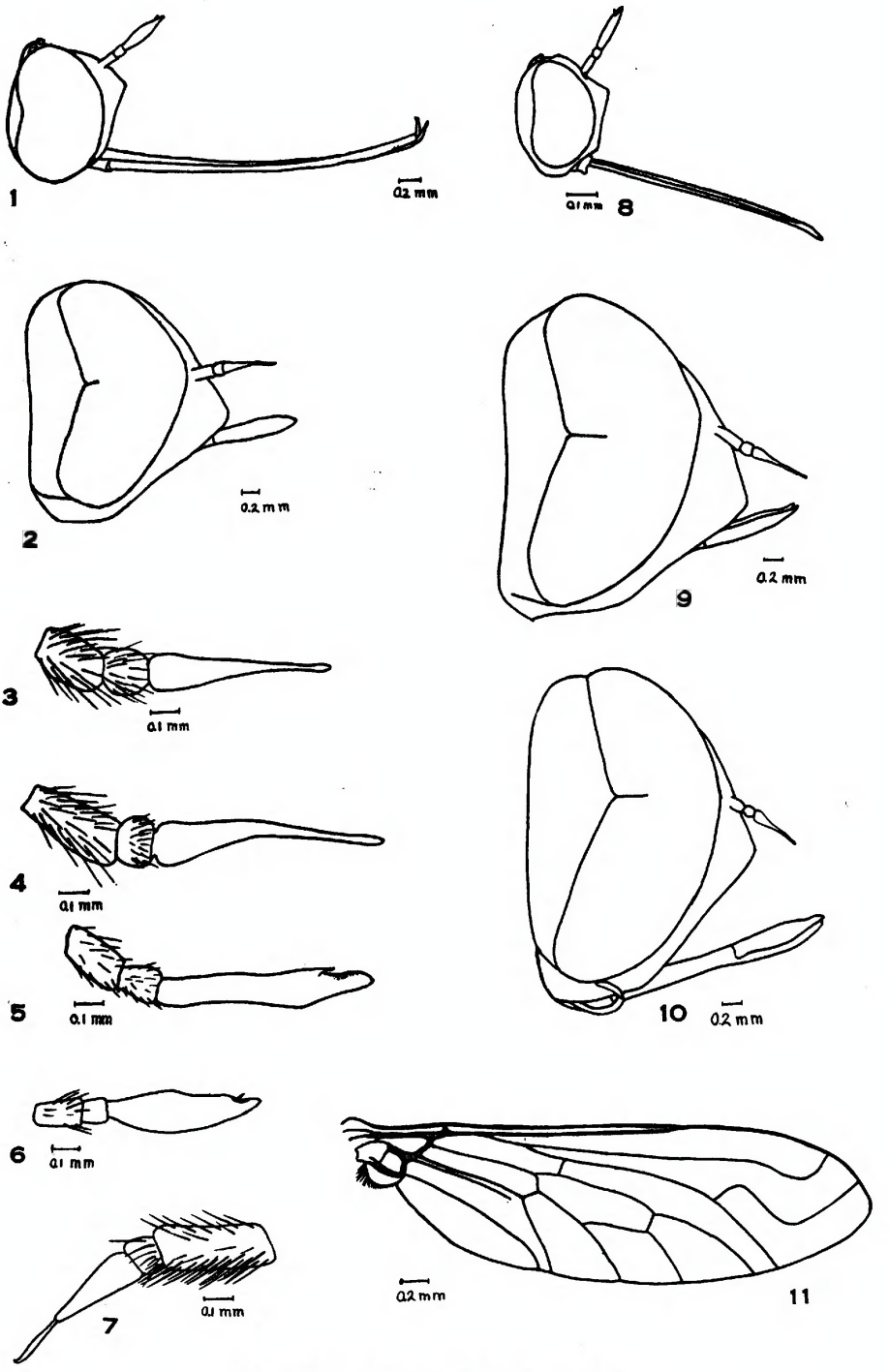
PAINTER, 1930, Journ. Kans. Ent. Soc., III, pp. 1–7.

One female, Corozal, Canal Zone, Jan. 21, 1929 (C. H. Curran).

Dr. J. M. Aldrich states in a recent letter that it is very doubtful if *H. rufum* (Olivier), with its synonym *Bombylius basilaris* Wiedemann is distinct from *stigmatias*. It probably will be necessary to await a study of the types or longer series in order to be certain regarding the number of species represented.

Toxophora aurifera Rondani (1848)

One male, two females, Ft. Randolph, Canal Zone, Jan. 23, 1929 (C. H. Curran). One female Balboa, Canal Zone, Nov. 7, 1923.



Figs. 1–11.—Panamanian Bombyliidae.

1, *Neodischistus currani*, n. sp.; 2, *Exoprosopa spadix*, n. sp.; 3, *Villa ravus*, n. sp.; 4, *Vllia argentosa*, n. sp.; 5, *Neodischistus currani*, n. sp.; 6, *Neodischistus collaris*, n. sp.; 7, *Exoprosopa spadix*, n. sp.; 8, *Neodischistus collaris*, n. sp.; 9, *Villa argentosa*, n. sp.; 10, *Villa ravus*, n. sp.; 11, *Neodischistus currani*, n. sp.

This species is probably the same as *T. leucopyga* Wiedemann (1828) and if so should carry Wiedemann's name.

Toxophora cuprea (Fabricius)

One female, near light house, Barro Colorado Island, Canal Zone, Dec. 3, 1930 (H. F. Schwarz); one male, same data (E. T. Huntington); one male, two males, Ft. Randolph, Canal Zone, Jan. 23, 1929, and Nov. 6, 1929 (C. H. Curran).

The size and number of the black spots on the last segments of the abdomen are variable: there may be either three or four present in specimens taken at the same time and place. These spots are very nearly absent in the female. The black scales may have either a greenish or purplish reflection.

Anthrax species

Seven females, Barro Colorado Island, Canal Zone, Dec. 23, 30, 1928, and Jan. 3, 5, 1929 (C. H. Curran).

These specimens may be *acroleuca* Wiedemann. There is a faint tinge of milky white in the hyaline part of the wing. The outline of the black area is quite different from that pictured by Macquart as *gideon* and which Osten Sacken says is like the type of *acroleuca*, which species has never been adequately described.

One female, taken at Saloanas, Panama, Nov. 14, 1923, F4860, may possibly be *luctuosa* Macquart. It differs from the specimens mentioned above in the distribution of the black area of the wing and various minor venational structures, the possession of white pile at the base of the abdomen, and the shape of the antennae. In view of the fact that specimens sometimes grouped under *A. anale* Say possess genitalic differences that accompany such color differences, it is probable that these two represent separate species. There are at least eight names that may be applied to Nearctic and Neotropical *Anthrax* with "half black wings." All of these have been inadequately described from one or two specimens usually from one sex. It would merely add to the confusion to describe new species or redescribe old ones in this group without a complete study of all.

Anthrax trimaculata Macquart

One male, Corozal, Canal Zone, Jan. 31, 1929 (C. H. Curran).

A. initans Schiner and *Spogostylum inappendiculatum* Bigot are probably synonyms.

Velocia latreillei (Wiedemann)

One male, two females, Barro Colorado Island, Canal Zone, Dec. 22, 30, 1928, Jan. 4, 1929 (C. H. Curran).

Mr. Curran reports a male and a female, Barro Colorado Island, Jan. 9, 1929; a female, Barro Colorado Island, Dec. 29, 1928.

Velocia hela (Erickson)

Eighteen specimens, both sexes, Fort Randolph, Canal Zone, Jan. 23, 1929, and Feb. 6, 1929.

This species have previously been called *Hyperalonia albiventris* (Macquart), which name is a homonym.

Exoprosopa limbipennis Macquart

One male, Corozal, Canal Zone, Jan. 31, 1929 (C. H. Curran); one female, Corozal, Canal Zone, Nov. 4, 1929 (C. H. Curran).

Mr. Curran reports additional specimens as follows: four specimens, both sexes, Barro Colorado Island, Dec. 22, 1928, and Jan. (H. F. Schwarz); three specimens, both sexes, Patilla Pt., Jan. 15, 1929; one female, Fort Randolph, Jan. 23, 1929; eleven specimens, both sexes, Corozal, Jan. 16, 19, 21, and Feb. 4, 1929.

Exoprosopa spadix, new species

Figures 2, 7, and 12*a*

Orange tomentose, middle of abdomen black tomentose; pale yellow tomentose bands on second, fourth, sixth, and seventh segments. Wings bifasciate; cell R_1 closed and petiolate. Length, 9.2 mm.

MALE.—Ground color brownish, center of abdomen black. Head black pilose and orange tomentose; proboscis surpassing oral cavity by the length of the labella. Antennae with first joint light brown; first and second joints black pilose; second and third joints dark brown. Length of antennae: first joint, 0.3 mm.; second joint, 0.1 mm.; third joint without style, 0.3 mm.; style, 0.25 mm.

Thorax orange tomentose and pilose; some black pile on dorsum, mesopleurae and coxae. Tomentum of scutellum, except at the margin, black.

Ground color of abdomen yellowish on sides and venter, black in the center above. Pile black; on first segment and anterior parts of second, orange-yellow. Tomentum black in the center but on the sides becoming mixed with orange; yellow tomentose cross-bands on the base of segments two and four, and over nearly all of segments six and seven. On segment four the band is narrow and interrupted in the center. Venter orange pilose and tomentose, some scattered black scales and hairs on segments five, six, and seven. Legs black and orange tomentose, and with black spines. Wings brown with lighter areas below the fork of Rs and in front of the r-m cross-vein; tip of the wing and a band extending from the discal cell to the margin, yellowish hyaline.

TYPE.—Holotype, male, Bruja Point, Canal Zone, Jan. 25, 1929 (Curran).

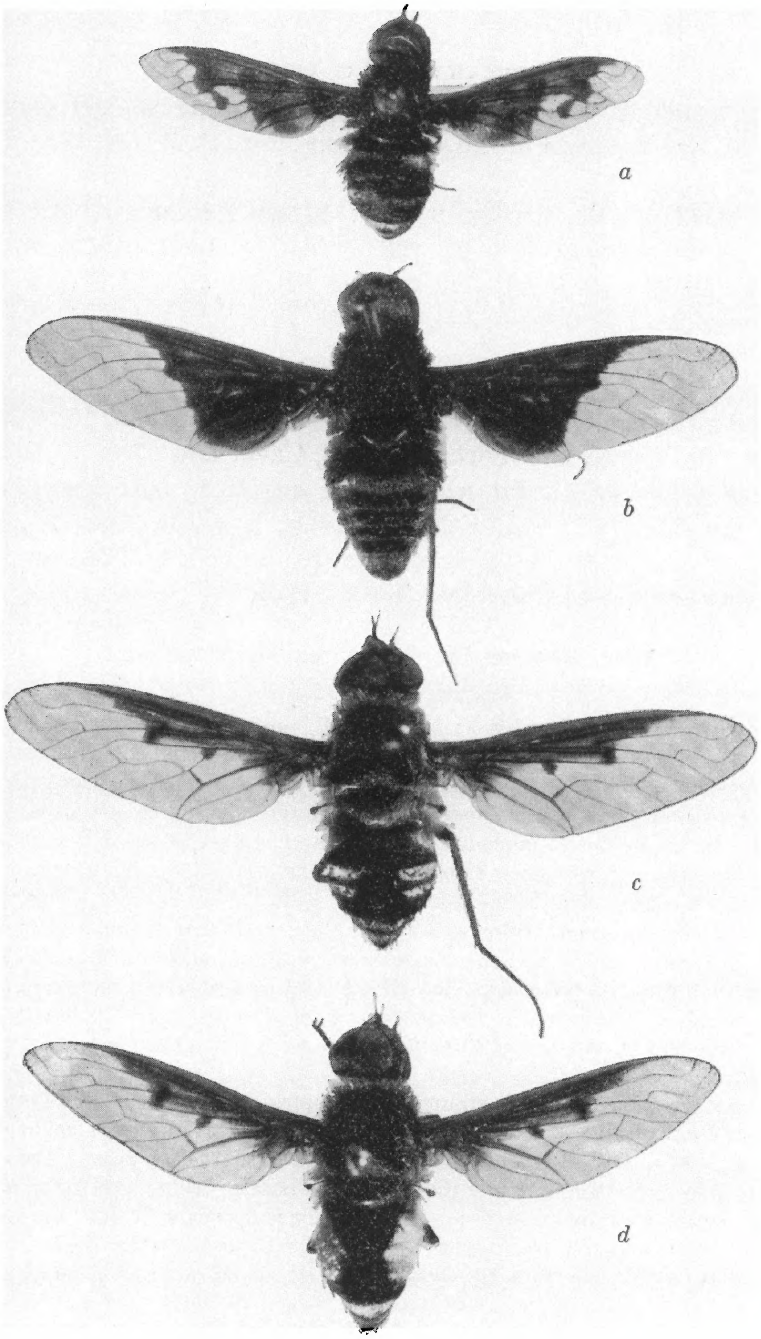


Fig. 12—Panamanian Bombyliidae.

a, ***Exoprosopa spadix***, n. sp., type; *b*, ***Villa ravus***, n. sp.; *c*, ***Villa argentosa***, n. sp., female; *d*, ***Villa argentosa***, n. sp., male.

Stonyx clotho (Wiedemann)

One female, Patilla Point, Canal Zone, Jan. 15, 1929 (C. H. Curran); two males, one female, Corozal, Canal Zone, Jan. 19, 21, 22, 1929 (C. H. Curran.)

In addition, Mr. Curran reports: fifteen specimens, both sexes, Barro Colorado Island, Dec. 27, 1928, Jan. 7, 8, 10, 11, 1929; twenty-nine specimens, both sexes, Corozal, Jan. 16, 19, 21, and Feb. 4, 1929; three males, Fort Randolph, Jan. 23, 1929.

Villa edititia (Say)

One male, one female, Patilla Point, Canal Zone, Jan. 15, 1929 (C. H. Curran); one female, Fort Randolph, Canal Zone, Jan. 23, 1929.

In addition Mr. Curran reports: five specimens, both sexes, Patilla Point, Jan. 15 and Feb. 1, 1929; one male, Bruja Pt., Jan. 25, 1929; four specimens, both sexes, Corozal, Jan. 19 and Feb. 4, 1929; ten specimens, both sexes, Fort Randolph, Jan. 23, 1929.

Villa (Chrysanthrax) argentosa, new species

Figures 4, 9, and 12*c*, *d*

Body mostly brownish or black; face conically produced; third joint of antennae conical, tapering from base to apex; abdomen silvery and black tomentose. In both sexes, the center of the abdomen and the fifth abdominal segment are black tomentose; in the male the remainder is silvery; in the female, segments six and seven and a spot on each side of segments two, three, and four are silvery. Venter largely blackish tomentose and pilose. Wings smoky hyaline, front margin brown. Front tibiae without spines. Length, 8–14 mm.

MALE.—Head, ground color dull black, face with oral margins yellowish, a streak of this color passing up to the base of each antenna and meeting in a V-shaped mark on the front; front and face black pilose, black and yellowish tomentose; occiput yellowish-white tomentose; proboscis exceeding the oral cavity the length of the labella. First and second joint of antennae yellowish; black pilose; third joint brownish black.

Thorax blackish brown in ground color; apical two-thirds of scutellum red; dorsum of thorax and scutellum black tomentose; margins of thorax yellow pilose and tomentose, a strip of yellow tomentum across the posterior part of the thorax and around the posterior margin of the scutellum; bristles yellow and black; pleurae and legs black tomentose and pilose. Ground color of legs dark brown; front coxae and base of front femora black; anterior tibiae without spines. Wings smoky hyaline; anterior part brownish, a black spot near base of discal cell and about the r-m cross-vein.

Abdomen black tomentose and pilose; sides of first segment, venter, and inner part of genitalia yellow pilose; sixth and seventh segments and a spot on the sides of the second, third, and fourth segments silvery tomentose, the ground color beneath these silvery portions largely or wholly yellow.

FEMALE.—Similar to male except that the silvery spots on each side of abdomen are interrupted at the apices of each segment.

TYPES.—Male, Corozal, Canal Zone, Jan. 19, 1929; allotype, female, Corozal, Canal Zone, Jan. 31, 1929 (C. H. Curran). Paratypes: nine males, two females, Corozal, Canal Zone, Jan. 10, 16, 19, 21, 22, 31, 1929, and Feb. 4, 1929 (C. H. Curran).

Villa (Chrysanthrax) ravus, new species

Figures 3, 10 and 12*b*

Body mostly brownish black; face conically produced, third joint of antennae conical, tapering from the base to apex; thoracic margins bright yellowish pilose and tomentose; abdomen black tomentose and pilose, some poorly defined yellowish tomentose spots on the sides of each segment; venter largely black pilose and tomentose; wings brownish on basal half; front tibiae without spines. Length, 13 mm.

FEMALE.—Head ground color dull black; face with a yellow stripe below each antennae extending up to form a triangular yellow spot on the center of the front above the base of the antennae; face and front black pilose and yellow tomentose, a strip of black tomentum between the antennae; occiput yellow tomentose; tips of labella surpassing oral cavity, first and second joint of antennae yellow, black pilose, third brownish black.

Thorax blackish brown; apical four-fifths of scutellum red, black, and yellowish pilose, the latter present sparsely on the metanotum, and prothorax; in front of, and behind the wing roots, and on the front coxae; bristles yellow and black; remainder of pleurae and legs black pilose and tomentose, brownish black in ground color; anterior tibiae without spines; wings with apex hyalíne, base brownish.

Abdomen black in ground color, a reddish spot in the center at each side of segments two, three, and four; black tomentose and pilose, first segment yellow pilose; ill defined small, yellow tomentose spots on the sides of each segment; venter yellowish and black pilose; genitalia yellow pilose.

TYPES.—Holotype, female, and paratype, female, Patilla Point, Canal Zone, Jan. 15, 1929 (C. H. Curran).

The paratype has an extra cross-vein in cell R_5 in a position similar to that in *Exoprosopa divisa* (Coquillett). This species is closely related to *argentosa.*

Villa lateralis (Say)

One female, Patilla Point, Canal Zone, Jan. 15, 1929 (C. H. Curran).

Villa lateralis fulvipes (Coquillett)

One female, Patilla Point, Canal Zone, Jan. 15, 1929 (C. H. Curran).

Villa orbitalis (Williston)

One male, Corozal, Canal Zone, Jan. 22, 1929. Five females, Corozal, Canal Zone, Jan. 15, 16, Feb. 3, 1929 (C. H. Curran); Corozal, Canal Zone, Nov. 17, 1930 (H. F. Schwartz); Barro Colorado Island, Canal Zone, Nov. 22, 1930.

This species, *sagata* Loew, *curta* Loew, *celer* Wiedemann, and *floridana* Macquaert are all closely related. There are at least six South American species that belong to the same group. It will be necessary to make a comparative study of a large number of specimens to determine the exact relationships. The specimens mentioned above were compared with cotypes from the American Museum and are the same species.

Villa paradoxa (Jaennicke)

Patilla Point, Feb. 1929.

Two males of *Diplocampta singularis* Schiner have been examined and they are not congeneric with this species as stated by Curran.[1]

[1]Curran, C. H. 1931. 'First supplement to the Diptera of Porto Rico and the Virgin Islands.' Amer. Mus. Novitates, No. 456, p. 7.